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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Stephen Oser

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EXAMINER

CASTELLANO, STEPHEN J

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/757,287	Applicant(s) OSER ET AL.	
	Examiner /Stephen J. Castellano/	Art Unit 3781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-11,13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-11, 13, 15-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3781

Claims 6-8, 12 and 14 have been canceled. Claims 1-5, 9-11, 13 and 15-16 are pending.

Note that parts 105A and 105C are not actually identical but are similar and resemble mirror image parts. The specification sets forth that each of the three interlocking elements may be characterized by an identical shape. The shape of each element is identical to the others when this limitation is read in light of the specification.

The specification states that "the retainer ring 100 is made of at least two arced elements that are movable relative to each other ..." There is no identification of which two parts or elements (105A, 105B or 105C) are movable with respect to each other.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the out portion" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the first portion" in line 21. There is insufficient antecedent basis for this limitation in the claim.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 10, 11, 13 and 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Darby et al. ('411) (Darby).

Darby discloses an end closure assembly for a pressure vessel, comprising a head member (domed shaped element 39, tubular connector 55 and seal 57 made of elastomeric non-metallic material), a retainer ring (79 which can be made of fiber composite) and a securing plate (face plate 41).

The retainer ring (79) is one-piece and consist of three layers coiled and laying on top of each other and is considered to have three individual arced elements that are movable by rotation with respect to each other, a first element could be the topmost 1/3 circle portion of the ring, a second element could be a middle 1/3 circle portion of the ring which is spaced 2/3 of a circle from the first element and a third element could be the lowermost 1/3 circle portion of the ring which is spaced at least 2/3 of a circle from the second element, the spaced portions of the ring would represent a movable/rotatable part allowing rotation about a horizontal axis much like a coil spring. Therefore, the three elements are movable/rotatable relative to each other.

The word "individual" as in the "three individual arced elements" does not preclude a one-piece assembly having three elements from meeting the claim language.

The retainer ring could also be a segmented ring as stated in col. 8, line 65 of Darby. The segmented ring would certainly have arced elements movable/rotatable relative to each other as evidenced by Buckley (3136230).

Re claim 13, any two of the three elements substantially mirror each other in shape.

Art Unit: 3781

Re claim 15, the retainer ring is annular in shape with a radially outwardly facing surface forming an outer portion and a radially inwardly facing surface forming an inner portion, the outer and inner portions are concentric and the outer portion has a greater diameter than the inner portion. The outer portion engaging the pressure vessel.

Re claim 16, Darby discloses the non-metal universal head member with domed shaped element and tubular element, the domed element defining a convex surface and the concave surface, the tubular element including an inner section and an outer section. Darby discloses the securing plate member (41, 51, 61) including a tubular boss (61) having internal threads complementary to the tubular element and connecting to external threads on the tubular element.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, 9-11, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darby.

Darby discloses the invention except for all of the parts of the head member being non-metal. The Official notice taken in the Office action mailed July 19, 2006 that domed heads and tubular connectors of non-metal composite plastic material are well known has not been challenged. Therefore, the previous prior art admission is now being treated as admitted prior art. It would have been obvious to use non-metal, plastic components where corrosion and weight are of concern.

Claims 1, 4, 5, 9-11, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darby in view of Brock.

This rejection is made if it is deemed that Darby doesn't disclose three arced elements movable/rotatable relative to one another.

Brock teaches various retaining rings 10 with at least three arced elements 13 movable/rotatable relative to each other as a hinge is apparent at the attachment of each limb 13 to a spoke 12 (see Fig. 1 which details the deformation of limb 13 in phantom and Fig. 7 an embodiment with a central opening). Although the elements are connected to each other as a one-piece structure, they are deemed to be individual elements that are linked to each other at their inner ends. It would have been obvious to replace the retaining ring of Darby with the retaining ring 10 of Brock to provide a readily deformable ring which transforms from a conical or deformed configuration to a flattened configuration in gripping engagement (see col. 1, first paragraph).

Claims 1, 4, 5, 9-11, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darby in view of van Os.

This rejection is made if it is deemed that Darby doesn't disclose three arced elements movable/rotatable relative to one another or that the retainer ring is deemed to be one element and can't be deemed to be three individual elements.

van Os teaches a retainer ring having individual and separate elements with multiple pieces. The retainer ring includes a clamping ring 15, tapered ring 13 and bolts 19 for connecting the clamping ring to the portion 18 of the cylinder head (see Fig. 1). The clamping ring 15 is shown to have three arced segments or elements all connected to each other at their

Art Unit: 3781

inner ends by the bolts 19 (see Fig. 3). In addition, the tapered ring 13 can be segmented into arced elements as well. The rejection relies on only the three individual arced segments of the clamping ring. Each arced segment 15 has its inner end linked to an inner end of another arced element as all segments 15 are bolted to portion 18. The arced elements are movable relative to each other by the loosening of one or all of the bolts 19 to allow for minor adjustment when the retainer ring is inserted into position inside of the pressure vessel. It would have been obvious to replace the retaining ring of Darby with this segmented ring because Darby discusses such segmented retainer rings (see col. 8, line 65 of Darby) and the retainer ring of van Os is particularly suited to high working pressures.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Darby or [Darby in view of Brock] or [Darby in view of van Os] in view of Galasso et al. (Galasso).

Darby discloses the invention except for the elliptical head member. Galasso teaches an elliptical (insofar as elliptical is shown in the perspective view of Fig. 1) head member (160) in contact with an universal head member (140) and a securing plate (110). It would have been obvious to add an elliptical head member to take up the space between an universal head member and a securing plate to provide a tight fit and to properly support the parts within the assembly so that these parts do not deform in the presence of excessive force or pressure.

Applicant's arguments filed January 30, 2008 have been fully considered but they are not persuasive. To clarify the examiner's remarks made on page 6 of the July 27, 2007 Office action, the retaining ring of Darby was refer to as a one-piece retaining ring that doesn't have separate elements (as the elements are not separated but integrally attached). There was no characterization of the elements as not being individual.

Brock discloses individual arced elements linked to each other at their inner ends.

Buckley is not applied.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Castellano whose telephone number is 571-272-4535. The examiner can normally be reached on increased flexibility plan (IFP).

Art Unit: 3781

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J. Castellano/
Primary Examiner
Art Unit 3727

sjc